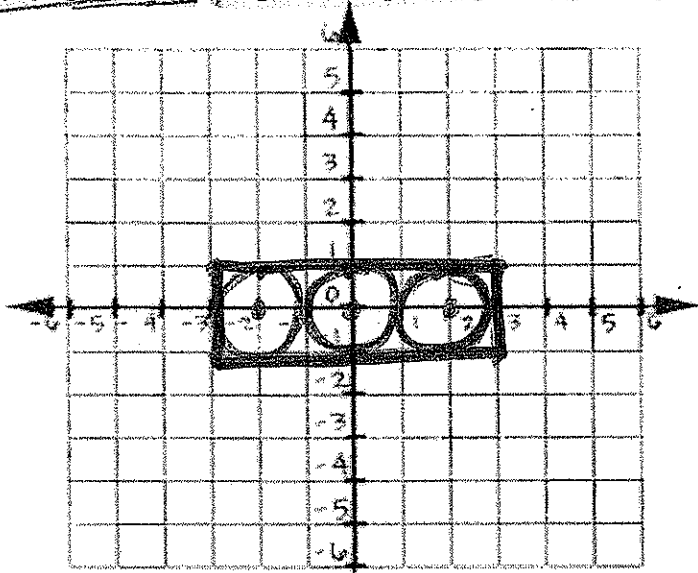


Site #1 Rectangle at (-3,1), (3,1), (3,-1), and (-3,-1). Circle center points at (-2,0), (0,0), and (2,0).

*The circumference of circles extends to the perimeter of the rectangle, but not beyond. Circles are filled w/ryegrass sod, irregular-shaped regions w/bluegrass. Area of a circle = πr^2 .



$$2 \times 6 = A = 12 \text{ yd}^2$$

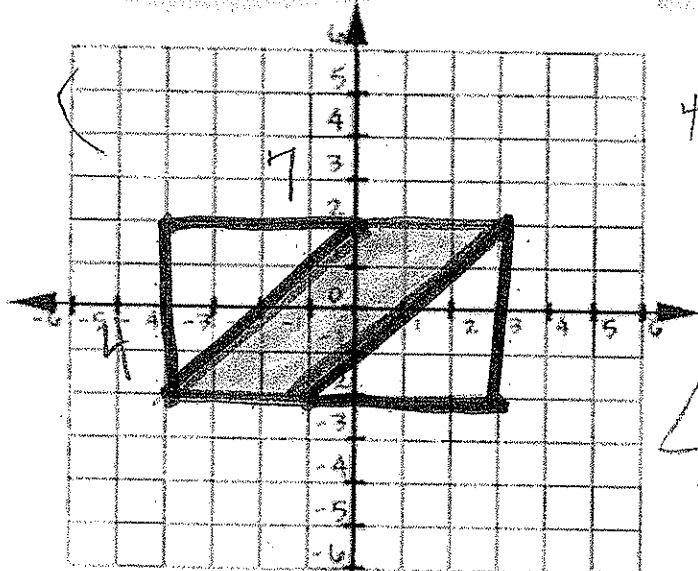
$$\begin{aligned} \bigcirc &= A = 3.14 \times 1^2 \\ A &= 3.14 \\ &\times 3 \\ \hline &9.42 \end{aligned}$$

$$\begin{array}{r} 12.00 \\ -9.42 \\ \hline 2.58 \end{array}$$

square yards of bluegrass sod: 2.58 yd²
irregular

square yards of ryegrass sod: 9.42 yd²
circles

Site #2 Rectangle at (-4,2), (3,2), (3,-2), and (-4,-2). Diagonal parallelogram at (0,2), (3,2), (-1,-2), and (-4,-2). *The diagonal region fill w/ryegrass sod, triangles fill w/bluegrass.



$$\begin{aligned} &\triangle \quad A = \frac{4 \times 4}{2} = \frac{16}{2} = 8 \\ &\times 2 \end{aligned}$$

$$\begin{array}{r} \times 2 \\ \hline 16 \text{ yd}^2 \text{ : both } \triangle \end{array}$$

$$\begin{aligned} &\triangle \quad A = 3 \times 4 \\ &= 12 \text{ yds} \end{aligned}$$

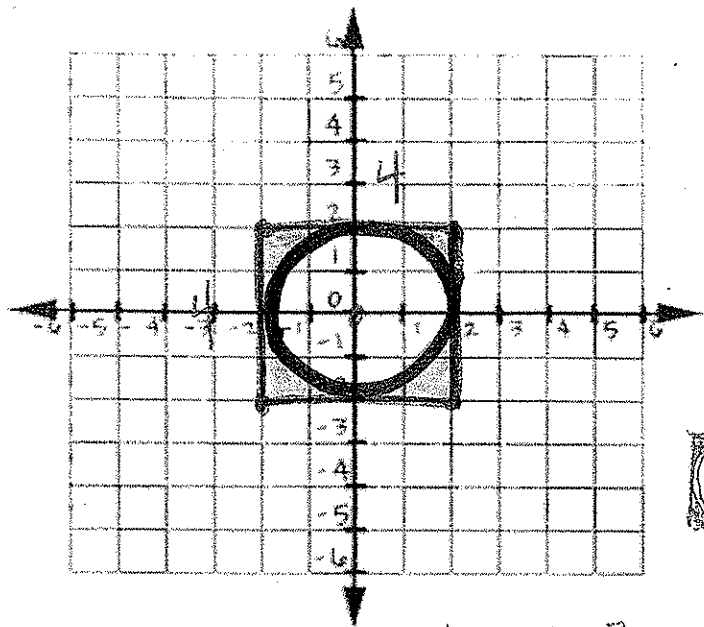
square yards of bluegrass sod: 16 yd²

square yards of ryegrass sod: 12 yd²

Site #3



square at $(-2,2)$, $(2,2)$, $(2,-2)$, and $(-2,-2)$. Circle center point at $(0,0)$. *The circumference will extend to the perimeter of square, but not beyond. Circular region fill w/bluegrass, corner regions fill w/ryegrass. CCM6 Students are not expected to know the circle formula, but should be able to use a formula when given. Area of a circle = πr^2 .



$$A \square^4 = 4 \times 4 = 16 \text{ yd}^2$$

$$A \bigcirc = \pi r^2 \\ = 3.14 \times (2)^2 \\ = 3.14 \times 4 \\ 12.56 \text{ yd}^2$$

$$\begin{array}{r} \text{shaded area} = \\ A \square - A \bigcirc \\ 16.00 \\ - 12.56 \\ \hline 3.44 \text{ yd}^2 \end{array}$$

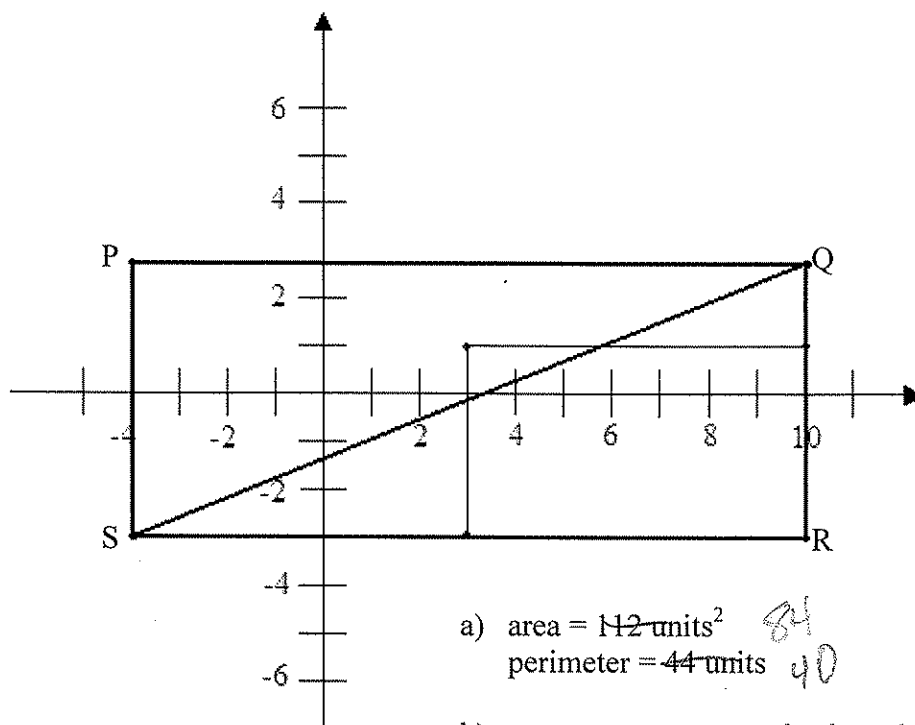
square yards of bluegrass sod: 12.56 yd²

square yards of ryegrass sod: 3.44 yd²

Key . Extra Practice Problems

Solution page:

1.



a) area = ~~112~~ units² ⁸⁴
perimeter = ~~44~~ units ⁴⁰

b) answers may vary – check student's work. Here is one possibility (3, 1), (10, 1), (10, -3), (3, -3)

c) answers may vary – check student's work. Here is one possibility (10, 5), (10, -3), (-4, -3)

2. Rectangle MNOP

$A = 24 \text{ units}^2$

$P = 20 \text{ units}$

Rectangle QRST – answers will vary

One possible solution: rectangle QRST: Q(4, 10), R(7, 10), S(7, 2), T(4, 2)

$A = 24 \text{ units}^2$

$P = 22 \text{ units}$

3. Triangle ABC

$A = 21 \text{ units}^2$

Triangle DEF

$A = 42 \text{ units}^2$

Triangles coordinates will vary

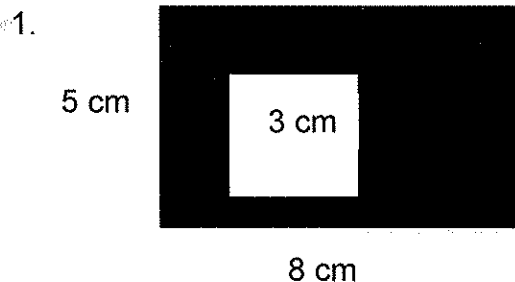
One possible solution: triangle DEF: D(-7, 13), E(-11, 1), F(-4, 1)

$$\begin{array}{r} 12 \\ 28 \\ \hline 40 \end{array}$$

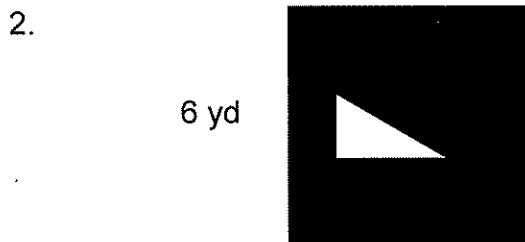
Name: Key
 Date: _____ Period: _____

Inscribed Figures

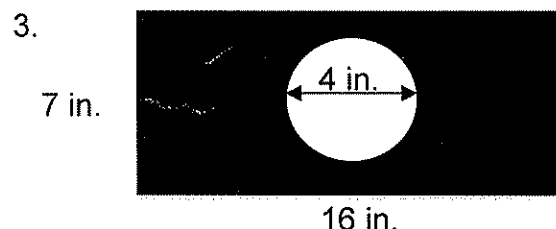
Find the area of the shaded portion of the following figures:



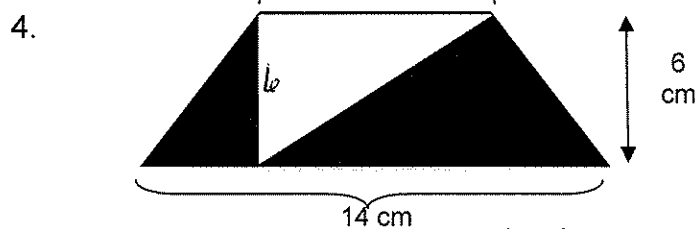
Area of rectangle: $5 \times 8 = 40$
 Area of square: $3 \times 3 = 9$
 Area of shaded region: $40 - 9 = 31 \text{ cm}^2$



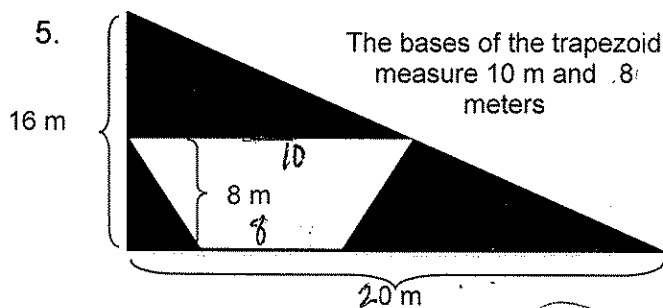
Area of square: $6 \times 6 = 36$
 Area of triangle: $\frac{3 \times 2}{2} = 3$
 Area of shaded region: $36 - 3 = 33 \text{ yd}^2$



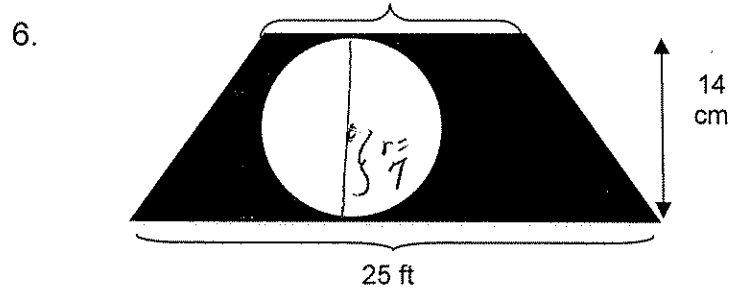
Area of rectangle: $7 \times 16 = 112.00$
 Area of circle: $r = 2$, $3.14 \times 2^2 = 12.56$
 Area of shaded region: $112.00 - 12.56 = 99.44 \text{ in}^2$



Area of trapezoid: $\frac{8+14}{2} \times 6 = 11 \times 6 = 66$
 Area of triangle: $\frac{6 \times 6}{2} = 18$
 Area of shaded region: $66 - 18 = 48 \text{ cm}^2$



Area of triangle: $\frac{16 \times 20}{2} = 160$
 Area of trapezoid: $\frac{8+10}{2} \times 8 = 9 \times 8 = 72$
 Area of shaded region: $160 - 72 = 88 \text{ m}^2$



Area of Trapezoid: $\frac{17+25}{2} \times 14 = 140$
 Area of Circles: $3.14 \times 7^2 = 153.86$
 Area of shaded region: $140 - 153.86 = -13.86$